AMERICAN INSTITUTE OF AERONAUTICS
AND ASTRONAUTICS

ATMOSPHERIC ENVIRONMENT TECHNICAL COMMITTEE HANDBOOK

May 1, 1995

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SECTION 1

1.1 PURPOSE

This handbook will acquaint members of the American Institute of Aeronautics and Astronautics (AIAA) Atmospheric Environment Technical Committee (AETC) with the organization, objectives, and workings of the AIAA and AETC. The AETC Handbook should also help familiarize the technical aerospace community in general, and the AIAA membership in particular, with the AETC and its functions. It should also stimulate interest in the committee's work and lead to improved communication with those who are interested in the atmospheric environment relative to the development and operation of aeronautical, space, and missile systems. This document will provide organized support to the AETC Chairperson and members as well as enhance professionalism within the AIAA and the AETC.

The AETC Handbook will be updated as necessary. It is printed on three hole paper so that updated pages, such as new membership lists, can replace outdated information and so that future sections can be easily inserted.

1.2 WELCOME TO NEW ATMOSPHERIC ENVIRONMENT TECHNICAL COMMITTEE MEMBERS

Your nomination has resulted in an appointment to membership in the American Institute of Aeronautics and Astronautics (AIAA) Atmospheric Environment Technical Committee (AETC).

1.3 DESCRIPTION OF THE AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS

The American Institute of Aeronautics and Astronautics (AIAA) is the largest and oldest American technical and professional society devoted to science and engineering in the fields of astronautical and aeronautical technology and systems. The AIAA resulted from a union of the American Rocket Society and the Institute of Aerospace Sciences in 1963.

The AIAA's primary objectives are as follows:

- Recognize, address, and serve the interests and needs of three groups in the aerospace community: (1) general engineering personnel for whom the AIAA represents a

social/professional/educational organization that supplements employer-related programs; (2) research scientists and engineers for whom the AIAA serves as a two-way channel for communication and publications; and (3) managers and decision makers for whom the AIAA serves as a network of contacts and resources.

- Involve corporations and professionals from all three groups in local- and national-level organizations.
- Use local and national technical activities committees, technical meetings, and publications to identify, capture, and promote new technologies.
- Pursue financially feasible strategies by offering products and services that will make membership desirable, result in membership growth, and generate adequate revenues.
- Promote aerospace and AIAA contributions to government, industry, academia, and the public.

1.4 SUMMARY OF THE ATMOSPHERIC TECHNICAL COMMITTEE PRACTICES AND PROCEDURES

The AETC consists of representatives from academia, government agencies, and industry.

The committee meets one or two times per year. Typically, the meetings coincide with the AIAA Aerospace Sciences Meeting (ASM) and Exhibit in January and an "ad hoc" meeting determined by the Chairperson after council with AETC membership. Our objective is to have at least two AETC meetings per year.

The committee meetings are under the guidance of the AETC Chairperson, following Robert's Rules of Order, and are normally scheduled so they will not conflict with the technical and social programs of the conference. A typical meeting follows a published agenda and includes such items as the presentation of minutes from the previous meeting, significant action items and general AIAA business from the Chairperson, subcommittee reports and actions, a review of the previous conference, planning for upcoming conferences (discussion of themes, topics, panel members, etc.), new business from the members, and award activities. Sometimes an invited guest gives a presentation on a general topic that interests all AETC members.

During the period between meetings, committee business is conducted through the mail and by telephone or by the Executive Committee. Minutes, including the addresses and phone numbers of the attendees, are issued to every committee member after each meeting. The AETC maintains a 3-year plan to project activities and updates this forecast on a yearly basis.

SECTION 2

2.1 OBJECTIVES

The objectives of the Atmospheric Environment Technical Committee (AETC) are as follows:

- To advance the technology and provide the forum for the interchange of scientific ideas and technology in the areas of atmospheric environment as related to aeronautical, space and missile systems
- To plan and execute technical meetings and conferences to provide a forum for those interested in exchanging information on scientific and engineering aspects of the atmospheric environment and instructions to keep informed about technical progress, both internal and external to the AIAA
- To encourage professionalism of those concerned with atmospheric environment programs and activities
- To communicate information to the atmospheric environment community so that customers may be better served
- To conduct special projects relating to national issues on the role of atmospheric environment understanding in national policy and national security for the evaluation of the AIAA membership and the public
- To ensure that appropriate publications describing technical accomplishments in the atmospheric environment are prepared and disseminated
- To provide a source of council on atmospheric environment matters to the AIAA and technical committees
- To encourage science and engineering students to select careers in the atmospheric environment community as related to aeronautical, space and missile systems.

2.2 SCOPE

The committee encourages and supports the exchange of information and furtherance of knowledge concerning all relationships and interactions between aerospace technological systems and the atmospheric environment. This scope encompasses all elements of the Earth's atmosphere involved in the suborbital and orbital operations of aeronautical, space, and missile systems.

2.3 MEMBERSHIP

The AETC membership comprises AIAA members from academia, government agencies, and industry, who are involved in missile systems and related activities. The AETC also seeks to maintain a membership that reflects a breadth of background in critical technical areas, a reasonable geographic distribution, and a balance of management and technical skills. The members are selected by respective companies/agencies and approved by the AIAA Deputy Director. The AETC is ordinarily limited to 35 members, with each member serving a term not exceeding 3 years, except where special conditions apply. The AETC Chairperson reserves the right to increase membership beyond 35 when necessary to effectively execute the duties of the AETC.

Membership of the AETC includes those having broad overall technical backgrounds in the atmospheric environment, those having an understanding of interrelationships among component elements of the atmospheric environment, and those understanding application to aeronautical, space and missile systems.

Candidate personnel should also have perspectives that qualify them to guide the direction of the development of atmospheric environment programs necessary to continue the United States' technical growth.

The AETC also may have up to two associate members. The purpose of an associate membership is to encourage atmospheric environment professionalism by introducing young and active AIAA student members into the technical committee and to provide for future growth of the committee.

The proceedings of this committee are directed by a Chairperson and a Chairperson-Elect who are elected by the committee members, and those subcommittee members appointed by the Chairperson. The Atmospheric Environment Technical Committee is divided into the following subcommittees:

- Executive (Section 4.1)
- Awards/Honors (4.2)
- Student Affairs (4.3)
- Aeronautical and Aerospace Operations (4.4)
- Aircraft Icing (4.5)

- Atmospheric Environment Standards (4.6)
- Earth Observation and Global Change (4.7)
- Environmental Impact (4.8)
- On-Orbit Environment (4.9)

2.4 PRINCIPAL ACTIVITIES

Principal activities of the Atmospheric Environment Technical Committee shall include the following:

- Enhance professionalism within the aerospace community
- Provide a forum within the atmospheric environment community by sponsoring, managing, and/or supporting technical meetings, workshops, and conferences:
  - — Workshops (TBD)
  - — Technical Meetings (TBD)
  - — Sessions at the annual Aerospace Sciences Conference.
- Meet twice per year to exchange ideas and coordinate and report on future events
- Sponsor atmospheric environment technical papers or sessions at other technical committee, society, or government conferences
- Develop an annual highlights article for *Aerospace America*
- Develop both annual and 3-year planning documents
- Support AIAA Technical Society awards and administer the AIAA Robert M. Losey Atmospheric Sciences Award (See Section 2.4.1)
- Support AIAA and AETC special functions, awards, and activities
- Sponsor student competitions

2.4.1 Losey Atmospheric Sciences Award

In 1940, the Robert M. Losey Award was established in memory of Captain Robert M. Losey, a meteorological officer who was killed while serving as an observer for the U.S. Army, the first officer in the service of the United States to die in World War II. In 1975 the name was changed to the Losey Atmospheric Sciences Award. It is presented in recognition of outstanding

contributions to the atmospheric sciences as applied to the advancement of aeronautics and astronautics.

2.4.2 Past Award Recipients

1940	Henry G. Houghton, Jr.	1968	No award presented
1941	Horace R. Byers	1969	Robert D. Fletcher
1942	F. W. Reichelderfer	1970	Newton A. Lieurance
1943	Joseph J. George	1971	Verner E. Suomi
1944	John C. Bellamy	1972	David Q. Wark
1945	Harry Wexler	1973	George H. Fichtl
1946	Carl G. Rossby	1974	Norman Sissenwine
1947	Benjamin G. Holzman	1975	Paul W. Kadlec
1948	Paul A. Humphrey	1976	No award presented
1949	William Lewis	1977	Robert Knollenberg
1950	Roscoe R. Braham	1978	Robert A. McClatchey
1951	Ivan R. Tannehill	1979	Allam B. Bailey
1952	Vincent J. Schaefer	1980	William W. Vaughan
1953	Henry T. Harrison, Jr.	1981	Jean T. Lee
1954	Hermann B. Wobus	1982	T. Theodore Fujita
1955	Robert C. Bundgaard	1983	Walter Frost
1956	Ross Gunn	1984	John H. Enders
1957	Jule G. Charney	1985	Dennis W. Camp
1958	P. D. McTaggard Cowan	1986	John Speridon Theon
1959	Herbert Riehl	1987	John McCarthy
1960	Thomas F. Malone	1988	Shelby Tilford
1961	Arthur F. Merewether	1989	James D. Lawrence, Jr.
1962	Jacob A. B. Bjerknes	1990	Robert E. Turner
1963	No award presented	1991	Charles H. Sprinkle
1964	Robert C. Miller	1992	C. Gordon Little
1965	George P. Cressman	1993	Moustafa T. Chahine
1966	David Atlas	1994	R. John Hansman

1967 Elmar R. Reiter

1995 James R. Weinman

SECTION 3

The Atmospheric Environment Technical Committee consists of a Chairperson, a Chairperson-Elect, 9 working subcommittees, and approximately 35 members. All AETC members work on one or more of the nine subcommittees.

3.1 RELATIONSHIP WITH THE PARENT ORGANIZATION

Figures 3-1 and 3-2 illustrate how the AIAA technical committees fit into the AIAA organizational structure. Table 3.1 gives names, addresses and the telephone numbers of the AIAA 1992/1993 Officers and Directors. The 62 technical committees are organized into 14 Technical Specialty Groups (TSG's). The technical specialty groups are organized under seven technical groups. These, in turn, fall under the jurisdiction of the Technical Activities Committee (TAC). The Atmospheric Environment Technical Committee belongs to the Atmospheric & Space Sciences Specialty Group of the Aerospace Sciences Technical Group. Figure 3-2 gives the twelve committees in this technical group.

The activities of all technical committees are coordinated and administered via the Administrator of Technical Activities at AIAA Headquarters. The Vice President of Technical Activities chairs the Technical Activities Committee (TAC). The TAC administers the activities of the technical committees via deputy directors, each of whom is a member of the TAC and serves as his or her technical specialty group's representative to the TAC. The Chairperson of the Atmospheric Environment Technical Committee is invited to attend TAC and TSG meetings.

3.2 FUNCTION OF THE DIRECTOR OF THE AEROSPACE SCIENCES TECHNICAL GROUP

The Director of the Aerospace Sciences Technical Group oversees the twelve technical committees listed in Figure 3-2.

The Director is the primary link between the TAC and the listed twelve technical committees and ensures that there are no technical committee conflicts in such areas as AIAA policies, bylaws, plans, and schedules. The Director issues an annual written report that summarizes progress, problems, needs, and activities.

3.3 LIAISON WITH OTHER TECHNICAL COMMITTEES

The Atmospheric Environment Technical Committee maintains ad hoc liaison representation with other AIAA and technical committees to coordinate activities of mutual interest. AETC has or will establish liaison representation with the following committees or persons:

- Chairperson, Technical Activities Committee
- Meetings Information, Technical Activities Committee
- Atmospheric Flight Mechanics Technical Committee
- Student Activities Committee
- Aeroacoustics Technical Committee
- Applied Aerodynamics Technical Committee
- Liquid Propulsion Technical Committee
- Management Technical Committee
- Society and Aerospace Technology Technical Committee
- American Meteorological Society (Aviation, Range and Aerospace Meteorology Committee)

The committee periodically reviews the need for liaison representation with other AIAA and technical committees.

The Chairperson appoints liaison representatives. The duties of these representatives include attending relevant meetings of those committees and reporting areas of interest and possible joint activities to the AETC at its annual meeting in January at the AIAA Aerospace Sciences Meeting.

3.4 SELECTION AND TERMS OF AETC COMMITTEE MEMBERS

Each year the AIAA, via the Technical Activities Committee (TAC), solicits nominations for the technical committees from the Board of Directors, the TAC, technical committee chairpersons, current technical committee members, AIAA student faculty advisors, AIAA corporate member contacts, NASA Directors, and various other government agencies, administrators, and military commands.

Upon recommendation of the appropriate technical committee Chairperson to the TAC, the

President of AIAA appoints technical committee members to 1-year terms. Thereafter, members with recommendations from the AETC Chairperson may be appointed to additional 2-year terms. New members are notified of their selection by mail. Membership on more than one technical committee at a time is not permitted without concurrence by the TAC Chair.

Membership on the technical committee signifies that one is a volunteer agent for the professional sector and joins others in the same discipline in ensuring that progressive projects, meetings, and other technical exchanges are held within the discipline. In accordance with a written statement from the nominee's department head or parent organization, it is understood that each appointed member will travel to at least two technical committee meetings per year and have some time to devote to committee business with parent organization funding. If a member cannot attend a technical committee meeting, he or she should notify the technical committee Chairperson.

3.5 SELECTION AND TERMS OF AETC COMMITTEE OFFICERS

Biennially, the AETC shall elect an AETC Chairperson to serve a 3-year term. The elected AETC Chairperson shall serve the first year of his or her term as AETC Chairperson-Elect and the second (2-Year) period of his or her term as AETC Chairperson. By this means, an independently elected AETC Chairperson-Elect will first support and then succeed an elected Chairperson, thereby ensuring a succession of experienced AETC officers.

Nominations for the biennial AETC Chairperson election will be sponsored by an AETC Nominating Committee chaired by the AETC Past Chairperson and staffed by AETC members. The AETC executive election will be held biennially during the January AETC meeting occurring in even numbered years. Nominees will be selected from the AETC membership as a whole.

The AETC Chairperson will appoint AETC Subcommittee Chairpersons with concurrence of the Executive Committee based upon nominations obtained from the AETC membership. The AETC Subcommittee Chairperson appointment terms are 1 year. However, they may be extended by the AETC Chairperson with concurrence of the membership.

All yearly appointment terms of AETC officers shall run in conjunction with the AIAA/TAC May to May TC member appointment year. The AETC officers consist of the three executive officers (Chairperson, Chairperson-Elect and Past-Chairperson)) and the AETC Subcommittee

Chairpersons (Executive, Awards/Honors, Student Affairs, Aeronautical and Aerospace Operations, Aircraft Icing, Atmospheric Environment Standards, Earth Observation and Global Change, Environmental Impact, and On-Orbit Environment). Figure 3-3 is an organization chart of the AETC that illustrates these subcommittees. Section 4 of this handbook explains the objectives and duties of the AETC subcommittees.

3.6 AETC CHAIRPERSON RESPONSIBILITIES

The AETC Chairperson, who serves a 2-year term, determines AETC meeting agendas, locations, and times; chairs AETC meetings; supervises AETC activities; designates the subcommittee Chairpersons; assigns subcommittee tasks and members; controls the membership roster; and submits any necessary reports, such as the annual report.

3.7 AETC CHAIRPERSON-ELECT (AND IMMEDIATE PAST CHAIRPERSON) RESPONSIBILITIES

Besides chairing AETC meetings and performing functions in the Chairperson's absence, the Chairperson-Elect regularly assists the Chairperson as Secretary of the AETC. In addition, the Chairperson-Elect (or immediate Past Chairperson) serves as Chairperson of the AETC Nominations Committee, the biennial Chairperson-Elect (or immediate Past Chairperson) Elections Committee, and the Awards/Honors Committee.

As Secretary, the Chairperson-Elect (or immediate Past Chairperson) prepares AETC meeting minutes and distributes them to members, maintains AETC documents, including the charter, is a member of the AETC Executive Committee, and performs other duties as assigned by the Chairperson.

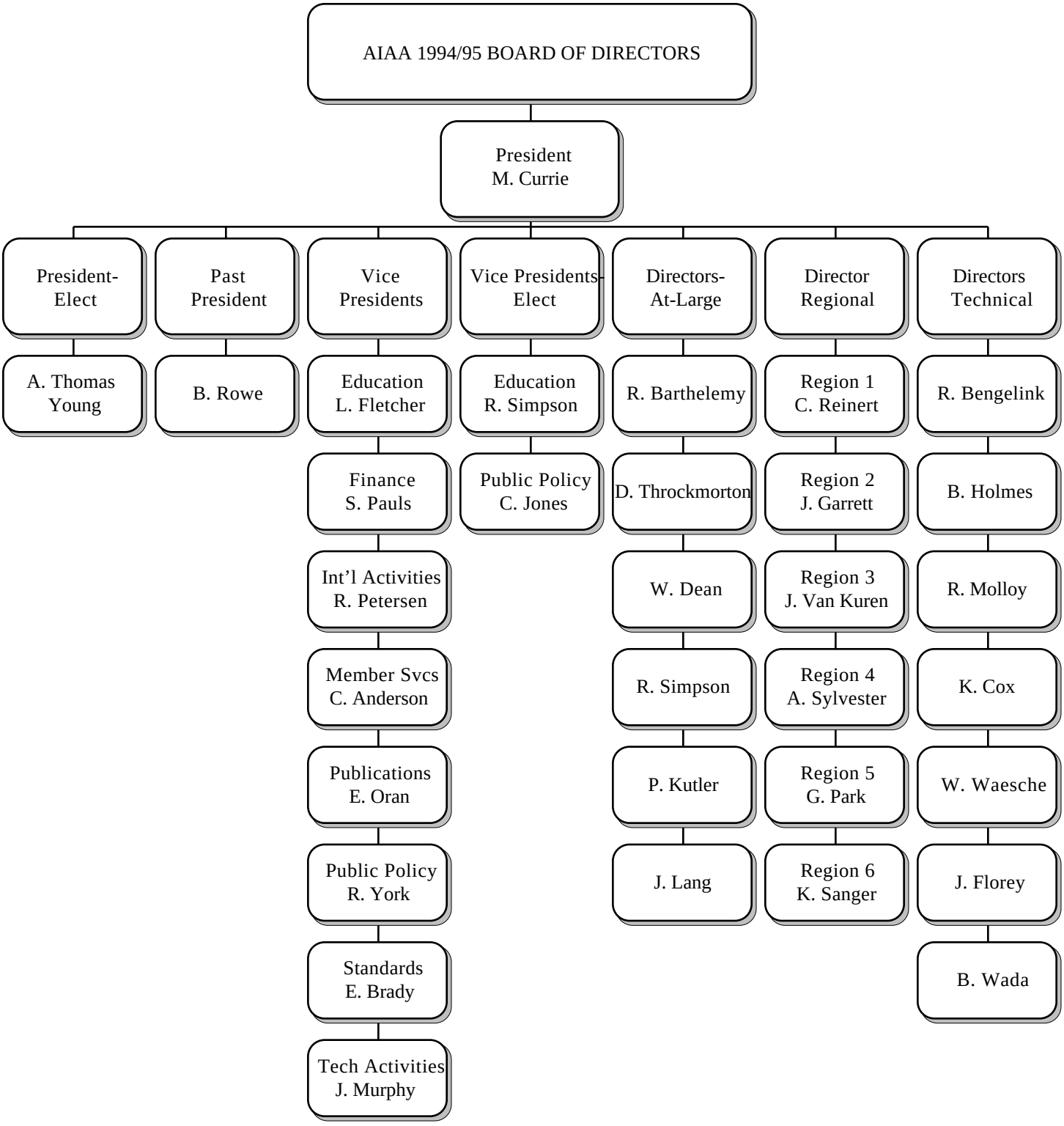

FIGURE 3-1 AIAA ORGANIZATION CHART

CHAIRPERSON
J. MICHAEL MURPHY – VP – Technical Activities
ELEANOR ADLRICH – DIVISION DIRECTOR

PROGRAM COORDINATORS
Human Factors Engineering - Ron Hoffman
HSCT - Samuel Dollyhigh
HYTASP - James Van Kuren
Space Station - Peter R. Kurzhals
Global Environmental Change - Clark W. Hawk

SUBCOMMITTEES
Budget Policy - Jerry J. Florey
New Initiatives - Kenneth J. Cox
Technical Meetings - A. Tom Smith

TECHNICAL GROUPS

ENGINEERING & TECHNOLOGY MANAGEMENT
Robert J. Molloy
Director

Vacant
Deputy Director

Economics - Robert Hunt
Legal Aspects of Aero. & Astro .- William D. English
Society & Aerospace Technology - William DiSalvo

Vacant
Deputy Director

History - Lloyd H. Cornett, Jr.
Management - Robert Barlow
Systems Engineering - R. Bruce Pittman
Technical Information - Rosalind Cheslock

AIRCRAFT TECHNOLOGY & OPERATIONS
Bruce Holmes
Director

Donald W. Richardson
Deputy Director for Aircraft Operations

Aircraft Operations - Robert McKnight
Air Transportation Systems - Anthony Hays
Lighter -Than-Air Systems - John Taylor

Jerry Hefner
Deputy Director for Aircraft Technologies

Aircraft Design - William Rhoades
General Aviation Systems - Doyle Peed
Marine Systems and Technology - Steve Hooker
Multidisciplinary Design Operations - Chris Borland
V/STOL Aircraft Systems - Wally Bode

PROPULSION & ENERGY
R. H. Woodward Waesche
Director

John P. McCarty
Deputy Director for Propulsion

Air Breathing Propulsion - Wayne Hurwitz
Electric Propulsion - Francis M. Curran
Hybrid Rockets - Benjamin E. Goldberg
Liquid Propulsion - Donald R. Connell
Nuclear Thermal Propulsion - Melvin C. McIlwain
Propellants & Combustion - Arthur Mellor
Solid Rockets - Charles Chase

Robert C. Winn
Deputy Director for Energy Conversion

Aerospace Power Systems - Douglas Allen
Terrestrial Energy Systems - Ashwani K. Gupta

SPACE & MISSILE SYSTEMS
Jerry J. Florey
Director

Frank Swalley
Deputy Director

Missile Systems - Robert Strickler
Space Operations & Support - Carl Case
Space Systems - Joseph Talbot
Space Transportation - Allan McDonald

Ronald B. Hoffman
Deputy Director

Space Automation & Robotics - Giulio Varsi
Life Sciences & Systems - Reginald M. Machell
Space Sciences & Astronomy - Michael Kaplan
Space Processing - John Williams

AEROSPACE SCIENCES
Ronald Bengelink
Director

Spiro G. Lekoudis
Deputy Director for Atmospheric & Space Sciences

Aeroacoustics - Philip J. Morris
Aerodynamic Measurement Technology - Rich Antcliff
Atmospheric Environment - Dennis Camp
Fluid Dynamics - J. David A. Walker
Plasmadynamics & Lasers - Robert F. Walter
Thermophysics - Jerry Beam

Bernard Kaufman
Deputy Director for Mechanics & Control of Flight

Aerodynamic Decelerator Systems - Robert B. Underwood
Applied Aerodynamics - John E. Burkhalter
Astrodynamics - Richard Holdaway
Atmospheric Flight Mechanics - David R. Riley
Balloon Systems Technologies - Dwight Bawcom
Guidance, Navigation & Control - John Hodgkinson

INFORMATION AND LOGISTICS SYSTEMS
Kenneth J. Cox
Director

A. Tom Smith
Deputy Director for Information Systems

Artificial Intelligence - Mark Gersh
Command, Control, Communications & Intelligence - William K. Kincaid, Jr.
Communications Systems - James Bagwell
Computer Systems - Deborah Hager
Digital Avionics - Edward Trujillo
Sensor Systems - Robert Otto
Software Systems - Joseph V. Presson

John C. McHaffie
Deputy Director for Logistic Systems

Aerospace Maintenance - Robert Matson
Space Logistics - John Peronnet
Support Systems - Dave Grover
System Effectiveness & Safety - William Wessel

STRUCTURES, DESIGN & TEST
Ben Wada
Director

Thomas E. Mix
Deputy Director for Design & Manufacturing

CAD/CAM - Frederick S. Hembrough
Design Engineering - Russell J. Reck
Interactive Computer Graphics - David E. Edwards
Survivability - D. Jerry Wallick

John Tracy
Deputy Director for Materials & Structures

Materials - William F. Bates, Jr.
Structural Dynamics - Lewis F. Jurey
Structures - Charles R. Saff

Gerald A. Pounds
Deputy Director for Test

Flight Simulation - Bruce L. Hildreth
Flight Testing - Larry A. Roberts
Ground Testing - A. G. Havener

LIAISONS

Education	Kenneth E. Harwell	Membership	Norm Baullinger
Honors & Awards	Bruce Holmes	Publications	R. H. Woodward Waesche
IAF	Joseph Hess	Public Policy	TBD
ICAS	Ronald L. Bengelink	Young Members	Margaret B. Renton
IDC	Kenneth J. Cox	Standards	Ali Ghovanlou
RSAC	Teresa Jordon		

REGIONAL DEPUTY DIRECTOR FOR TECHNICAL ACTIVITIES

Region I	Milton Berkowitz	Region II	David Eames
Region III	Roland Lorenz	Region IV	James Walker
Region VI	Tom Nosek	Region V	Rudy Yurkovich

FIGURE 3-2 AIAA TECHNICAL ACTIVITIES COMMITTEE 1994/1995

TABLE 3.1 –

AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS

PRESIDENT (1994-95)
*Dr. Malcolm R. Currie
Chairman Emeritus
Hughes Aircraft Company
28780 Wagon Road
Agoura, CA 91301
(818) 707-8652 FAX (818) 707-6409

PRESIDENT-ELECT (1994-95)
*Mr. A. Thomas Young
President & Chief Operating Officer
Martin Marietta Corporation
6801 Rockledge Drive
Bethesda, MD 20817
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DIRECTOR-IMMEDIATE PAST PRES. (1994-95)
*Mr. Brian H. Rowe
Chairman
GE Aircraft Engines
M/D N178
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Cincinnati, OH 45215
(513) 243-8888 FAX (513) 243-4952

VP-EDUCATION (1992-95)
*Dr. L. S. "Skip" Fletcher
Dietz Prof. of Mechanical Engineering
Texas A&M University
College Station, TX 77843
(409) 845-7270 FAX (409) 845-3081
Internet: LSF0290@sigma.tamu.edu

VP-FINANCE (1994-97)
*Mr. Sidney F. Pauls
10 Poquoson River Drive
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(804) 864-6113 FAX (804) 864-6117

VP-INTERNATIONAL ACTIVITIES (1994-97)
*Mr. Richard H. Petersen
Professor
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VP-MEMBER SERVICES (1993-96)
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Chief, Satellite Control & Simulation
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VP-PUBLICATIONS (1991-94)
*Dr. Elaine S. Oran
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(202) 767-2960 FAX (202) 767-6260
Internet: oran@lcp.nrl.navy.mil

VP-PUBLIC POLICY (1992-95)
*Dr. Ronald E. York
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NAO R&D Center, RANB 214
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VP-STANDARDS (1994-97)
*Mr. Edward C. Brady
Co-Owner
Strategic Perspectives Inc.
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(703) 250-6338 FAX (703) 250-3637
Internet: brady@cerf.net

VP-TECHNICAL ACTIVITIES (1993-97)
*Dr. J. Michael Murphy
Managing Director
Propulsion Consultants, Inc.
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DIRECTOR-TECHNICAL (1994-97)
AEROSPACE SCIENCES GROUP
Mr. Ronald L. Bengelink
Chief Engineer, Aerodynamics Engineering
Boeing Commercial Airplanes
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(206) 234-9984 FAX (206) 237-0192

**Executive Committee*

TABLE 3.1 (CONTINUED)

DIRECTOR-TECHNICAL (1992-95)
AIRCRAFT TECH. & OPERATIONS GROUP
Dr. Bruce J. Holmes
General Aviation Program Manager
NASA Langley Research Center, M/S 261
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(804) 864-3863 FAX (804) 864-8864
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DIRECTOR-TECHNICAL (1992-95)
ENGINEERING & TECHNOLOGY MGT. GROUP
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Director of Directed Energy Systems
Martin Marietta Astronautics Group
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DIRECTOR-TECHNICAL (1992-95)
INFORMATION & LOGISTICS SYS. GROUP
Dr. Kenneth J. Cox
Division Chief
Navigation, Control & Aeronautics Division
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(713) 483-8224 FAX (713) 483-6120

DIRECTOR-TECHNICAL (1992-95)
PROPULSION & ENERGY GROUP
Dr. R. H. Woodward Waesche
Senior Scientist
Science Applications International Corp.
1710 Goodridge Drive, M/S 2-6-6
McLean, VA 22102
(703) 448-6489 FAX (703) 790-5427

DIRECTOR-TECHNICAL (1993-96)
SPACE & MISSILE SYSTEMS GROUP
Mr. Jerry J. Florey
Staff Senior Manager, Strategic Planning
Space Transportation
McDonnell Douglas Aerospace
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DIRECTOR-TECHNICAL (1994-97)
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Manager
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California Institute of Technology
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Internet: ben.k.wada@jpl.nasa.gov

DIRECTOR-AT-LARGE (1994-97)
*Dr. Robert R. "Bart" Barthelemy
Director, Training Sys. Product Group
Aeronautical System Center
ASC/YW
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DIRECTOR-AT-LARGE (1994-97)
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Space & Atmospheric Sciences Prog. Group
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DIRECTOR-AT-LARGE (1992-95)
Mr. William E. Dean
Associate Director
NASA Ames Research Center
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DIRECTOR-AT-LARGE (1992-95)
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Cowling Professor
Virginia Polytechnic Institute
Dept of Aero. & Ocean Engr.
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(703) 231-5989 FAX (703) 231-9632
Internet: simpson@apolloo.aoe.vt.educ

DIRECTOR-AT-LARGE (1993-96)
Dr. Paul Kutler
Visiting Scholar
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Department of Aeronautics & Astronautics
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Internet: pkutler@qmgate.arc.nasa.gov

DIRECTOR-AT-LARGE (1993-96)
*Dr. James D. Lang
Director, F-15 & F-4 Engineering
McDonnell Douglas Aerospace
M/C 0013422
P.O. Box 516
St. Louis, MO 63166
(314) 232-9207 FAX (314) 233-6033

**Executive Committee*

TABLE 3.1 (CONTINUED)

DIRECTOR-REGION 1 (1993-96)
Mr. Clifford D. Reinert
Program Control, Business Operations
Martin Marietta AstroSpace
M/S U2626
230 Mall Blvd.
King of Prussia, PA 19406
(610) 354-2899 FAX (610) 354-4235

DIRECTOR-REGION 2 (1993-96)
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**Executive Committee*

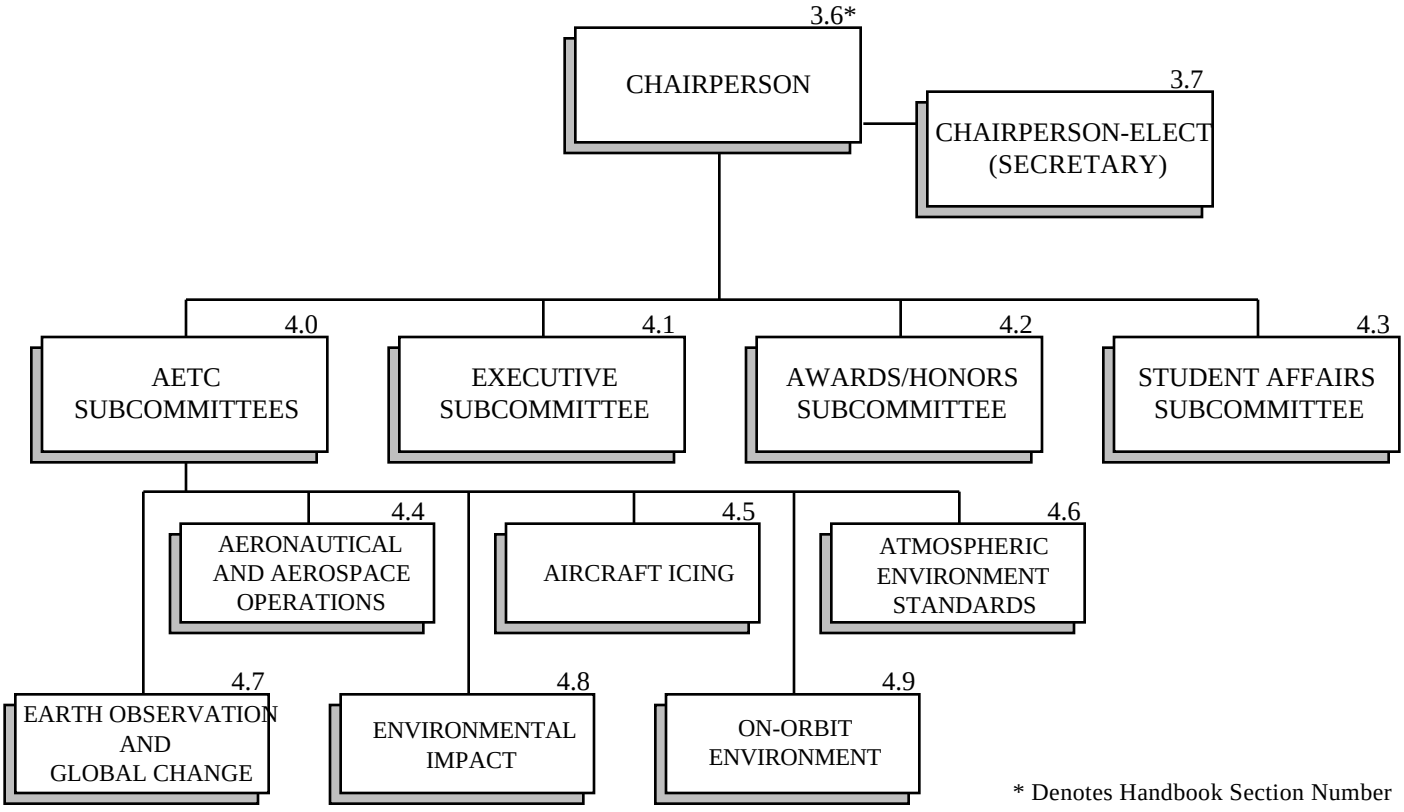

FIGURE 3-3 ATMOSPHERIC ENVIRONMENT TECHNICAL COMMITTEE ORGANIZATION CHART

SECTION 4

Each member of the AETC is on one or more subcommittees of the AETC. The AETC Chairperson chairs the Executive Subcommittee. The Chairperson of each subcommittee provides updates of activities during meetings of the technical committee. The objectives, duties, and schedule of each of the subcommittees follow. The AETC and its Subcommittees support the AIAA Aerospace Sciences Meeting (each January). Section 5 of this handbook outlines the details of this conference. The AETC Chairperson may also appoint any necessary ad hoc subcommittees.

4.1 EXECUTIVE SUBCOMMITTEE

4.1.1 Objectives and Organization

The Executive Subcommittee shall assess the performance of the AETC and develop guidance and policies to ensure that the AETC achieves its stated goals and charter responsibilities. It shall assist the AETC Chairperson in the development of AETC plans, committee member assignments, and other requirements in response to AIAA guidance and AETC needs.

The Executive Subcommittee shall be composed of the duly elected AETC Chairperson and the AETC Chairperson-Elect, immediate Past Chairperson and Subcommittee Chairpersons. At the discretion of the Executive Committee Chair, generally in response to special needs, other members of the AETC may be appointed to the Executive Committee for a variable term. The Executive Subcommittee shall be chaired by the AETC Chairperson.

4.1.2 Duties and Yearly Schedule

Duties	Schedule
• Develop AETC Master Plan	Annual meeting, January period at ASM ad hoc meeting as necessary
• Review and assess AETC progress	Annual meeting, January period
• Select AETC membership appointments	Annual meeting, January period
• Select Subcommittee Chairpersons appointments	Annual meeting, January period
• Develop AETC responses to	Ad hoc meetings as necessary

AIAA/TAC requests	
• Support AETC Chairperson special assignments	Ad hoc meetings as requested by AETC AETC Chairperson
• Make AETC Executive Nominations	Annual meeting, January period at ASM

4.1.3 Operating Procedures

Generally, informal Executive Subcommittee meetings discuss and act upon pressing or scheduled AETC business. These may be accomplished by telecoms or personal meetings. Agenda, membership meetings, location, and schedule will be held as defined above or at the discretion of the AETC Executive Subcommittee Chairperson. Most Executive meetings will be held at the annual January meeting during the AIAA Aerospace Sciences Meeting.

4.2 AWARDS/HONORS SUBCOMMITTEE

4.2.1 Objectives and Organization

The objectives of the Awards/Honors Subcommittee are to administer awards and honors functions, with particular attention given to the Robert M. Losey Atmospheric Sciences Award.

4.2.2 Duties and Yearly Schedule

Duties	Schedule
• Administer the Robert M. Losey Award including developing award specifications and selecting awardees	Nominations due to AIAA in mid-August. Nominee(s) selected and AIAA notified in mid-October. Award(s) presented at the January Aerospace Sciences Meeting
• Support all AIAA awards	Ongoing
• Help develop specifications for major AIAA awards	As required, upon request of the AIAA Honors and Awards Committee

4.2.3 Operating Procedures

The Awards/Honors Subcommittee is chaired by the Chairperson-Elect (or immediate Past Chairperson) of the AETC. A minimum of four AETC members are solicited or volunteer to serve on this subcommittee. For each award activity, the subcommittee chairperson establishes the assignments and schedule to meet AETC and AIAA milestones. For the Robert M. Losey

Award, the selection committee will normally be from members of the Awards/Honors Subcommittee and shall have one being from the most recent Losey Award selection committee to provide continuity. Service by an AETC member on the selection committee shall not be for more than two consecutive terms.

4.3 STUDENT AFFAIRS SUBCOMMITTEE

4.3.1 Objectives and Organization

The objectives of the Student Affairs Subcommittee is to encourage engineering students to select careers in the aerospace community. Specific activities of this subcommittee include sponsoring technical competitions and providing a liaison with the AIAA Student Activities Committee. The Student Affairs Subcommittee acts as a pseudo-contracting organization to solicit proposal-like responses from individual students or students teams. It evaluates the student proposals, selects winners, and awards prizes donated by industry at a suitable AIAA-sponsored occasion. This activity introduces students to atmospheric environment activities, systems engineering, and systems integration considerations as part of their education, thus enhancing aerospace professionalism. It also serves to introduce promising students to the aerospace community and especially to the atmospheric environment community.

4.3.2 Duties and Yearly Schedule

Duties	Schedule
• Receive letter from AIAA Student Activities Committee that solicits topics for Student Design Competition	September
• Choose candidate topics for Student Competition	October
• Create abstract of RFP for Student Competition and present to AETC membership	January
• AIAA Student Activities Committee selects topics from AETC, Aircraft Design, and other technical committee submittals	March
• RFP with specifications submitted to AIAA Student Activities Committee	May
• Students begin work on design competition	Following September
• Universities mail letter of intent to compete	Following March

in design competition	
• Submit list of judges	Following May
• Begin review of proposals	Following June
• Complete review of proposals and announce winners of Student Design Competition	Following August

4.3.3 Operating Procedures

The Student Affairs Subcommittee includes representatives from industry, academia, and government. Meetings are held in conjunction with AETC meetings or ad hoc as needed. Major activities include writing an RFP with specifications and judging student papers from universities.

4.4 AERONAUTICAL AND AEROSPACE SUBCOMMITTEE

4.4.1 Objectives and Organization

The Aeronautical and Aerospace Operations Subcommittee exists to explore and study subjects related to:

- Atmosphere, both of the Earth and planets, including composition, models, turbulence, winds, lightning, and measurement techniques and tools
- Aerospace vehicle launch operations and related activities such as wind measurements, vehicle flight loads, and various other launch constraints.

The Aeronautical and Aerospace Operations Subcommittee shall be composed of a Chairperson appointed by the Executive Committee and at least six members who are established professionals in any of the fields related to the charter of this subcommittee.

4.4.2 Duties and Yearly Schedule

Duties	Schedule
• Develop a session plan for each Aerospace Sciences Meeting and other AIAA conferences/meetings as appropriate	Annual meeting in January
• Prepare request for abstracts	Annual meeting in January
• Solicit papers from the technical community in accordance with the plan	March through May of each year

• Chairperson to coordinate activities, select session chairpersons, and submit summary of all sessions to AETC Chairperson	June of each year
• Chairperson to notify the session chairpersons of the approved session plan and coordinate the notification of all authors of the acceptance or rejection of their papers	August of each year
• Maintain contact with the authors to assist them as needed and to assure their meeting the November submittal date	September to October
• Final planning for the January meeting, both with regard to the sessions and the AETC meeting	November to December

4.4.3 Operating Procedures

Except for the annual meeting, all subcommittee business is conducted by means of fax, conference calls, and the mail.

4.5 AIRCRAFT ICING SUBCOMMITTEE

4.5.1 Objectives and Organization

The Aircraft and Icing Subcommittee has as its primary objective the communication of information regarding the formation and avoidance of icing on aircraft. This includes understanding the basic physics of icing formation, prediction of conditions associated with icing formation, avoidance of icing formation, operations under conditions conducive to icing development, and development of operational procedures to insure, to the degree practical, the non-development of icing on aircraft. Recommendations for special studies and preparation of overview papers shall be accomplished when deemed appropriate.

The Aircraft Icing Subcommittee shall be composed of a Chairperson appointed by the Executive Committee and at least six members who are active professionally or knowledgeable in any of the disciplines related to the charter of this subcommittee.

4.5.2 Duties and Yearly Schedule

Duties	Schedule
• Develop a session plan for each Aerospace Sciences Meeting and other AIAA meetings	Preliminary plan via telecoms Nov/Dec with final plan at

as appropriate	Jan. annual AETC meeting
• Prepare request for abstracts	Annual AETC meeting in Jan.
• Solicit papers from technical community in accordance with session plan	March through May
• Chairperson to coordinate final session development activities including selection of session chairpersons and submit summary of sessions to AETC Chairperson	June
• Chairperson to notify session chairpersons of approved session plan and coordinate the notification of all authors on acceptance of papers	August
• Maintain contact with session chairpersons and authors to assist them as needed to meet AIAA submittal date for papers	September and October
• Final planning for January Aerospace Sciences Meeting, both with regard to sessions and annual AETC meeting	November and December

The Chairperson of the Aircraft Icing Subcommittee will, in collaboration with subcommittee members, develop an appropriate input on new developments in area of activities as input to the AETC annual report prepared for submission to *Aerospace America* and publication therein. The schedule for this submission shall be developed in coordination with the AETC Chairperson at the AETC annual meeting in January.

While the AIAA Aerospace Sciences Meeting in January is the primary meeting for the presentation of sessions, the subcommittee may from time to time develop sessions or otherwise participate in other AIAA meetings or meetings of other professional organizations. These actions will be coordinated with the AETC Chairperson prior to making final commitments.

4.5.3 Operating Procedures

Except for the subcommittee's meeting at the January annual meeting of the AETC at the AIAA Aerospace Sciences Meeting, all subcommittee business will normally be conducted by means of fax, conference calls, regular mail and e-mail if available. Special subcommittee meetings may be called by the subcommittee Chairperson when deemed appropriate.

4.6 ATMOSPHERIC ENVIRONMENT STANDARDS SUBCOMMITTEE

4.6.1 Objectives and Organization

The Atmospheric Environment Standards Subcommittee has as its primary purpose the development and promotion of guidelines, operating procedures, standards, and special publications regarding the description and application of atmospheric environment information for engineering use by the aerospace community. The scope includes all aspects of the Earth's atmospheric environment from the surface to and including orbital altitudes (LEO and GEO). The subcommittee will function in close collaboration with the AIAA Standards Program and especially the Atmospheric and Space Environment Committee on Standards. It is anticipated that a significant number of the subcommittee members will also be members of the Atmospheric and Space Environment Committee on Standards. Also, the subcommittee works in close collaboration with other AETC subcommittees.

4.6.2 Duties and Yearly Schedule

Duties	Schedule
• Develop a session plan for each Aerospace Sciences Meeting and other AIAA meetings as appropriate	Preliminary plan via telecoms Nov/Dec with final plan at Jan. annual AETC meeting
• Prepare request for abstracts	Annual AETC meeting in Jan.
• Solicit papers from technical community in accordance with session plan	March through May
• Chairperson to coordinate final session development activities including selection of session chairpersons and submit summary of sessions to AETC Chairperson	June
• Chairperson to notify session chairpersons of approved session plan and coordinate the notification of all authors on acceptance of papers	August
• Maintain contact with session chairpersons and authors to assist them as needed to meet AIAA submittal date for papers	September and October
• Final planning for January Aerospace Sciences Meeting, both with regard to sessions and annual AETC meeting	November and December

The Chairperson of the Atmospheric Environment Standards Subcommittee will, in collaboration with subcommittee members, develop an appropriate input on new developments in area of activities as input to the AETC annual report prepared for submission to *Aerospace America* and publication therein. The schedule for this submission shall be developed in coordination with the AETC Chairperson at the AETC annual meeting in January.

While the AIAA Aerospace Sciences Meeting in January is the primary meeting for the presentation of sessions, the subcommittee may from time to time develop sessions or otherwise participate in other AIAA meetings or meetings of other professional organizations. These actions will be coordinated with the AETC Chairperson prior to making final commitments.

4.6.3 Operating Procedures

Except for the subcommittee's meeting at the January annual meeting of the AETC at the AIAA Aerospace Sciences Meeting, all subcommittee business will normally be conducted by means of fax, conference calls, regular mail and e-mail if available. Special subcommittee meetings may be called by the subcommittee Chairperson when deemed appropriate.

4.7 EARTH OBSERVATION AND GLOBAL CHANGE SUBCOMMITTEE

4.7.1 Objectives and Organization

The Earth Observation and Global Change Subcommittee has as its primary function the development and dissemination of information on the subcommittee's area of concern to the aerospace engineering community. This includes not only the disciplinary aspects, but the spacecraft, instrumentation, and data processing functions associated with the Earth Observing and Global Change activities of various government agencies, industry, and academic institutions. The objectives of the subcommittee will be accomplished by special invitation to speakers for sessions organized for the January Aerospace Sciences Meetings, preparation of white papers for publication in *Aerospace America* or elsewhere in AIAA publications, and participation on an ad hoc basis in other AIAA meetings relative to session and panel developments.

The Earth Observation and Global Change Subcommittee shall be composed of a Chairperson appointed by the Executive Committee and at least six members who are active professionally or knowledgeable in any of the disciplines related to the charter of this subcommittee.

4.7.2 Duties and Yearly Schedule

Duties	Schedule
• Develop a session plan for each Aerospace Sciences Meeting and other AIAA meetings as appropriate	Preliminary plan via telecoms Nov/Dec with final plan at Jan. annual AETC meeting
• Prepare request for abstracts	Annual AETC meeting in Jan.
• Solicit papers from technical community in accordance with session plan	March through May
• Chairperson to coordinate final session development activities including selection of session chairpersons and submit summary of sessions to AETC Chairperson	June
• Chairperson to notify session chairpersons of approved session plan and coordinate the notification of all authors on acceptance of papers	August
• Maintain contact with session chairpersons and authors to assist them as needed to meet AIAA submittal date for papers	September and October
• Final planning for January Aerospace Sciences Meeting, both with regard to sessions and annual AETC meeting	November and December

The Chairperson of the Earth Observation and Global Change Subcommittee will, in collaboration with subcommittee members, develop an appropriate input on new developments in area of activities as input to the AETC annual report prepared for submission to *Aerospace America* and publication therein. The schedule for this submission shall be developed in coordination with the AETC Chairperson at the AETC annual meeting in January.

While the AIAA Aerospace Sciences Meeting in January is the primary meeting for the presentation of sessions, the subcommittee may from time to time develop sessions or otherwise participate in other AIAA meetings or meetings of other professional organizations. These actions will be coordinated with the AETC Chairperson prior to making final commitments.

4.7.3 Operating Procedures

Except for the subcommittee's meeting at the January annual meeting of the AETC at the AIAA Aerospace Sciences Meeting, all subcommittee business will normally be conducted by means of

fax, conference calls, regular mail and e-mail if available. Special subcommittee meetings may be called by the subcommittee Chairperson when deemed appropriate.

4.8 ENVIRONMENTAL IMPACT SUBCOMMITTEE

4.8.1 Objectives and Organization

The Environmental Impact Subcommittee exists to provide a forum relative to the issues associated with environmental impact studies and assessments regarding aerospace vehicles and facilities. This includes the scientific and engineering aspects of environmental impact both of the aerospace vehicle and facility on the environment and the environment on the aerospace vehicle and facility. The subcommittee's objectives will be accomplished mainly by development of sessions at the Aerospace Sciences Meeting or other AIAA meetings, preparation of special white papers on issues, and exchange of information among subcommittee members and with members of the AETC. The subcommittee's scope includes environmental impacts on and near the Earth's surface, in-flight, an on-orbit atmospheric environment.

The Environmental Impact Subcommittee shall be composed of a Chairperson appointed by the Executive Committee and at least six members who are active professionally or knowledgeable in any of the disciplines related to the charter of this subcommittee.

4.8.2 Duties and Yearly Schedule

Duties	Schedule
• Develop a session plan for each Aerospace Sciences Meeting and other AIAA meetings as appropriate	Preliminary plan via telecoms Nov/Dec with final plan at Jan. annual AETC meeting
• Prepare request for abstracts	Annual AETC meeting in Jan.
• Solicit papers from technical community in accordance with session plan	March through May
• Chairperson to coordinate final session development activities including selection of session chairpersons and submit summary of sessions to AETC Chairperson	June
• Chairperson to notify session chairpersons of approved session plan and coordinate the notification of all authors on acceptance	August

of papers	
• Maintain contact with session chairpersons and authors to assist them as needed to meet AIAA submittal date for papers	September and October
• Final planning for January Aerospace Sciences Meeting, both with regard to sessions and annual AETC meeting	November and December

The Chairperson of the Environmental Impact Subcommittee will, in collaboration with subcommittee members, develop an appropriate input on new developments in area of activities as input to the AETC annual report prepared for submission to *Aerospace America* and publication therein. The schedule for this submission shall be developed in coordination with the AETC Chairperson at the AETC annual meeting in January.

While the AIAA Aerospace Sciences Meeting in January is the primary meeting for the presentation of sessions, the subcommittee may from time to time develop sessions or otherwise participate in other AIAA meetings or meetings of other professional organizations. These actions will be coordinated with the AETC Chairperson prior to making final commitments.

4.8.3 Operating Procedures

Except for the subcommittee's meeting at the January annual meeting of the AETC at the AIAA Aerospace Sciences Meeting, all subcommittee business will normally be conducted by means of fax, conference calls, regular mail and e-mail if available. Special subcommittee meetings may be called by the subcommittee Chairperson when deemed appropriate.

4.9 ON-ORBIT ENVIRONMENT SUBCOMMITTEE

4.9.1 Objectives and Organization

The On-Orbit Environment Subcommittee is formed to promote technical and scientific activities and disseminate results in the areas of:

- Spacecraft interaction with natural, anthropogenic, and in-situ space environment
- Definition of the environment parameters of relevance to spacecraft operations and mission planning
- Multidisciplinary fusion of results from research efforts conducted on-orbit or undertaken to study on-orbit environment

Specifically, the Subcommittee is responsible for proposing, sponsoring, and organizing AETC technical paper sessions in topics central to its interest. The Subcommittee, composed of the duly elected AETC members, is truly committed to an equal representation of all subfields included in its scope and particularly to reach out to the community of space researchers and operators who could use this forum for sharing their contribution.

The On-Orbit Environment Subcommittee shall be composed of a Chairperson appointed by the Executive Committee and at least six members who are active professionally or knowledgeable in any of the disciplines related to the charter of this subcommittee.

4.9.2 Duties and Yearly Schedule

Duties	Schedule
• Develop a paper session for each Aerospace Sciences Meeting	Yearly Meeting in January
• Prepare a request for abstracts	Yearly Meeting in January
• Chairperson coordinate activities with AETC Chairperson, select session chairpersons, and submit session summaries to AETC	February through May
• Notify session chairpersons of approved session plan	June
• Coordinate the notification of all authors about the acceptance or rejection of their papers	August
• Maintain contact with session chairpersons and assist them as needed	September through December
• Report to AETC Chairperson about activities and sessions	Yearly Meeting in January
• Provide support to AETC relative to committee activities	Throughout the year, as required

The Chairperson of the On-Orbit Environment Subcommittee will, in collaboration with subcommittee members, develop an appropriate input on new developments in area of activities as input to the AETC annual report prepared for submission to *Aerospace America* and publication therein. The schedule for this submission shall be developed in coordination with the AETC Chairperson at the AETC annual meeting in January.

While the AIAA Aerospace Sciences Meeting in January is the primary meeting for the presentation of sessions, the subcommittee may from time to time develop sessions or otherwise

participate in other AIAA meetings or meetings of other professional organizations. These actions will be coordinated with the AETC Chairperson prior to making final commitments.

4.9.3 Operating Procedures

Except for the subcommittee's meeting at the January annual meeting of the AETC at the AIAA

Aerospace Sciences Meeting, all subcommittee business will normally be conducted by means of fax, conference calls, regular mail and e-mail if available. Special subcommittee meetings may be called by the subcommittee Chairperson when deemed appropriate.

SECTION 5

Each year the Atmospheric Environment Technical Committee both organizes and participates in a number of technical conferences. These conferences provide technologists the opportunity to share reports of technical progress on key problems that challenge research into the atmospheric environment. Keynote speakers discuss the government's perspective on where the nation is headed in atmospheric environment issues and articulate the broad technical challenges facing conference participants. Leaders of today's development programs discuss in plenary sessions brief overviews of the technological problems facing them. Technical sessions summarize progress to date on the key issues of the conference, as identified in the call for papers and summarized in the plenary sessions.

These meetings bring technologists in a wide range of disciplines together to learn of issues and challenges across the spectrum of the atmospheric environment to report on advances in key problem areas of interest to the government.

The conferences have various purposes: Some represent briefings to industry on key activities within the government agencies that address the issues at hand. Other meetings focus on efforts that an agency has sponsored externally to address the issues. In some instances, the efforts reported are neither sponsored specifically by a government agency nor conducted internally, but reflect external efforts that address technology areas of interest.

5.1 AEROSPACE SCIENCES MEETING

5.1.1 Goals and Objectives

The **Aerospace Sciences Meeting** is an unclassified technical meeting addressing the full spectrum of aerospace sciences and technologies. Approximately 20 technical committees sponsor sessions at this meeting. The multidisciplinary character of the Aerospace Sciences Meeting provides a forum for scientists and engineers from industry, government, and universities to disseminate and share scientific knowledge and research results. The Aerospace Sciences Meeting is the largest of all AIAA technical conferences. The AETC typically sponsors 60 to 70 technical papers in 10 to 12 sessions. The papers are chosen by 1) a competitive process based on peer review and 2) by invitation of papers to emphasize major trends and accomplishments in aerospace disciplines. The AETC solicits papers for sessions focusing on technology applied to all areas of the environment. General areas of interest are

both in experimental and analytical results. The General Chairperson may elect to focus numerous sessions of the meeting on one or more current critical issues, in which case the technical committees may emphasize the critical issues in their respective call for papers.

5.1.2 Organization

The Aerospace Sciences Meeting has a General Chairperson. The General Chairperson is supported by representatives of the participating technical committees as a committee for organizing the sessions to be held at the meeting. The General Chairperson is also supported by an activities committee that sponsors the special sessions, exhibits, and special events (i.e., tennis tournaments, spouses' programs, etc.)

5.1.3 Duties and Schedule

The duties of the AETC Aerospace Sciences Meeting organizing Chairperson appointed by the AETC Chairperson are as follows:

- Submit a call for papers to AIAA for printing in *Aerospace America*
- Set up peer reviews of submitted abstracts and papers
- See that the abstracts and papers are reviewed for acceptance or rejection
- Attend an ASM organizing/planning meeting to determine the number of sessions available/required for papers accepted
- Send letters of acceptance or rejection for papers submitted. (This may be divided among session chairpersons or peer reviewers.)
- Select session chairpersons for the AETC-sponsored sessions
- Follow up with authors to see that author deadlines are known and met. (This may be divided among Session Chairpersons.)
- Attend the Aerospace Sciences Meeting to represent the AETC
- Report as required at AETC meeting

Duties	Schedule
• Attend Aerospace Sciences Meeting	Second week of January
• Submit call for papers for following year to AIAA for printing in *Aerospace America*	Second week of February
• *Aerospace America* prints call for papers	March

• Review abstracts (due beginning of June) and identify Session Chairperson	Second week of May
• Complete review of paper abstracts	Prior to last week of June
• Attend organizing/planning meeting to determine how many sessions are available/required	Last week of June
• Send author information to AIAA	Second week of July
• Send letters of acceptance/rejection and select session chairpersons	Last week of July
• Submit final program to AIAA for printing in *Aerospace America* to be printed in October issue	First of September
• Final manuscripts are due to AIAA for printing. (Authors can print their own and bring to meeting; however, a "no paper - no podium" policy applies.)	Second week of September
• Attend Aerospace Sciences Meeting	Second week of January

5.1.4 Special Requirements

Authors should be reminded to get government approval for contract status reports, sensitive information, technology transfer, etc. The flowtime required can be expected to be 8 to 12 weeks.

The conference has been held in Reno, Nevada, at the Reno Hilton since 1983 and probably will remain there for the foreseeable future. The ASM organizing/planning meeting is held in July at an appropriate location.

This is an unclassified meeting with attendees from foreign nations, including Russian allies and friends. Representatives from the Department of Defense, other government agencies, NASA, industry, and academia also attend the meeting.

5.1.5 Operating Procedures

AETC usually has one Aerospace Sciences Meeting Organizing Chairperson and as many Session Chairpersons as required. The session Chairpersons are usually members of the AETC. AETC has sponsored 10 to 12 sessions in the recent past. These sessions usually focus on

atmospheric environment issues and advancements as related to aeronautics, space and missile systems.

The AETC Organizing Chairperson is expected to give reports to the AETC at the regular meetings. The AETC Chairperson should expect to spend approximately 40 to 80 hours per year for organizing, reviewing, as well as attending AETC meetings, the organizational/planning meeting, and the Aerospace Sciences Meeting. Usually the AETC organizing Chairperson holds the position for one year and then passes the responsibility to a volunteer who has been a Session Chairperson at a previous Aerospace Sciences Meeting.

5.1.6 1995 Aerospace Sciences Meeting AETC Leaders

AETC Sessions	Session Chairpersons
Aeronautical and Aerospace Operations	Dr. Wayne R. Sand
Aircraft Icing	Dr. Mark G. Potapczuk
Atmospheric Environment Standards	Dr. Robert Skrivanek
Earth Observation and Global Change	Dr. William Kreiss
Environmental Impact	Dr. Rebecca McCaleb
On Orbit Environment	Dr. Phan Dao

5.2 OTHER MEETINGS AND CONFERENCES

The AETC will, depending upon the desires of the membership, host and arrange sessions at other AIAA or society meetings or conferences. In each case, the AETC Chairperson will appoint an organizing Chairperson to accomplish the duties as outlined in Section 5.1 for the ASM.

APPENDIX A

AETC MEMBERSHIP ROSTER
AND
AIAA POINTS OF CONTACT

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MARCH 1995 MEMBERSHIP ROSTER

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APPENDIX B

AETC SUBCOMMITTEE STRUCTURE

SUBCOMMITTEE STRUCTURE FOR 1995
ATMOSPHERIC ENVIRONMENT TECHNICAL COMMITTEE

AETC Chairperson: Mr. William (Bill) G. Tank
Office Phone: 206-773-3856
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AETC Chairperson-Elect/Vice Chairperson:
Office Phone:
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AETC Past Chairperson: Mr. Dennis W. Camp
Office Phone: 205-721-6668
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Executive Subcommittee			
Mr. William (Bill) G. Tank	(Chairperson) (Chairperson-Elect)	206-773-3856	206-773-1249
Mr. Dennis W. Camp	(Past-Chairperson)	205-721-6668	205-830-4093
Dr. Wayne R. Sand	(Subcommittee Chairperson)	303-494-2741	303-494-2741
Dr. Mark G. Potapczuk	(Subcommittee Chairperson)	216-433-3919	216-433-3954
Dr. Robert (Bob) Skrivanek	(Subcommittee Chairperson)	617-273-2820	617-272-1068
Dr. William Kreiss	(Subcommittee Chairperson)	404-894-3628	404-894-6285
Dr. Rebecca (Becky) C. McCaleb	(Subcommittee Chairperson)	205-544-4367	205-544-2307
Dr. Phan Dao	(Subcommittee Chairperson)	617-377-4944	617-377-9950
Awards/Honors Subcommittee (Losey Atmospheric Sciences Award)			
Dr. Mark G. Potapczuk	(Chairperson)	216-433-3919	216-433-3954
Dr. William (Bill) W. Vaughan		205-922-5759	205-922-5755
Dr. Robert (Bob) Skrivanek		617-273-2820	617-272-1068
Student Affairs Subcommittee			
Subcommittee presently inactive.			
Aeronautical and Aerospace Operations Subcommittee			
Dr. Wayne R. Sand	(Chairperson)	303-494-2741	303-494-2741
Mr. L. J. Ehrenberger		805-258-3699	805-258-2842
Ms. Dorothy Becker		301-713-1726	301-713-1598
Mr. Dale L. Johnson		205-544-1665	
Mr. Chris Van Der Maas		408-742-0649	408-756-0645
Mr. William (Bill) G. Tank		206-773-3856	206-773-1249
Aircraft Icing Subcommittee			
Dr. Mark G. Potapczuk	(Chairperson)	216-433-3919	216-433-3954
Mr. C. Scott Bartlett		615-454-6873	615-454-5602
Prof. R. John Hansman		617-253-2271	617-253-4196
Dr. Richard K. Jeck		609-485-4462	609-485-4005
Mr. Bahman S. Namdar		206-234-5155	206-234-9941
Atmospheric Environment Standards Subcommittee			
Dr. Robert (Bob) Skrivanek	(Chairperson)	617-273-2820	617-272-1068
Dr. Herbert C. Carlson		617-377-3604	617-377-5688
Dr. Robert (Rob) Suggs			
Dr. William (Bill) W. Vaughan		205-922-5759	205-922-5755

Earth Observations and Global Change Subcommittee

Dr. William (Bill) Kreiss	(Chairperson)	404-894-4392	404-894-6285
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Dr. Harry L. F. Houpis		406-721-3000	406-721-5912
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APPENDIX C

RESUMES

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Position/Scope: Preparing support documentation for the MSFC Microgravity Project Office

Experience/Honors: Senior Specialty Engineer, Mission support activities for the MSFC Microgravity Projects Office (1/94 to present)

Acting Manager Technical Criteria Standards, Supervisor TC&S Environments, Senior System Engineer, Grumman Space Station Integration Division, Huntsville, Alabama (8/89 to 11/93)

Systems Associate Scientist, Reliability Engineer, Thiokol Inc., Bringham City, Utah (8/87 to 8/89)

Reliability Engineer, Teledyne Brown Engineering, Huntsville, Alabama (6/87 to 8/87)

Aeronautics Specialist, FWG Associates, Tullahoma, Tennessee (1/85 to 6/87)

Aerospace Engineer, NASA/Marshall Space Flight Center, Huntsville, Alabama (1/61 to 1/85)

Member Sigma Xi, AIAA and Civitan

AIAA Losey Award (1985)

Education: B.S. Mathematics/Physics, Samford University, Birmington, Alabama, 1961

M.S. Engineering Science and Mechanics, University of Tennessee Space Institute, Tullahoma, Tennessee, 1977

AETC Interest Areas: AETC Activities, On-Orbit Environment, Aerospace Sciences Meeting, Aviation Safety, Losey Award

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Position/Scope: Plans, coordinates and accomplishes flight research engineering tasks involving applications of aeronautical meteorology. These encompass air data calibration, turbulence measurements, prediction and design criteria recommendations. Flight vehicles supported range from low speed unmanned high altitude aircraft to the supersonic SR-71 and the planned National Aerospace Plane.

Previous experience includes Weather Officer, geophysical measurements aboard the X-15 research airplane, supersonic transport turbulence studies, clear air turbulence detection experiments, B-57 spanwise gust measurements and similar projects.

Experience/Honors: Member of American Meteorological Society, American Chemical Society, and Associate Fellow AIAA.

Served on the American Meteorological Society Committee for Aeronautical Meteorology and Los Angeles Section Vice-Chair and Chair, as well as AV Section of AIAA Secretary, Vice Chair, Chair, and Director.

Education: B.S. Chemistry, University of Nebraska, 1958

AFIT Certificate of Meteorology, St. Louis University

AETC Interest Areas: Clear air turbulence, aeronautical meteorology, air data measurements, and flight safety

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Position/Scope: As president, responsible for most administrative, financial and R&D functions of a small high-tech business. EnviroSens, Inc. (ESI) is dedicated to environmental systems analysis, sensor design, and related services. In particular, ESI is involved with the analysis of regional hydroecological systems for natural resource management, the design and development of a nitrate-in-water sensor system, and an imaging system for flows through aircraft engine combustors and other conduits.

Experience/Honors: March 1978 - February 1988: Research Physicist, University of California, San Diego. Involved in studies associated with comets, solar system formation, the solar wind, dusty plasma physics, and ionospheres/magnetospheres.

February 1988 - August 1990: Technical Staff, Mission Research Corporation. Investigations directed at various aspects of electromagnetic wave propagation through the terrestrial ionosphere.

January 1991 - April 1994: Western Regional Director, Center for Remote Sensing, Inc. Primary research efforts were ozone variations in relation to hypersonic flights, tomography techniques for imaging the Earth's ionosphere, mapping radioactive contamination on the ground, and sensor system designs.

April 1994 - January 1995: Principal, Houpis and Associates. Responsibilities similar to EnviroSens, Inc.

January 1995 - present: President, EnviroSens, Inc.

Author of over 90 publications, technical reports, and conference presentations. Max Planck Society Fellow (Katlenburg-Lindau, Germany, 1983 and 1985), Fulbright Senior Scholar (Budapest, Hungary, 1985-86). Member of American Institute of Aeronautics and Astronautics, American Physical Society, and American Geophysical Union. Contracts/grants at various times from U.S. Army, U.S. Air Force, U.S. Navy, DNA, NASA, NSF, and EPA.

Education: B.S. Mathematics and B.S. Physics, Massachusetts Institute of Technology, 1976.

M.S. Physics and Ph.D. Physics, University of California, San Diego, 1978 and 1981, respectively.

AETC Interest Areas: Modeling and sensor systems associated with the effects of aircraft effluents on the atmospheric environment.

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Position/Scope: Owner of a small aviation weather consulting firm which deals primarily with the analysis of weather factors and their influence on aircraft operations and accidents. Principal concerns are convection (especially thunderstorms), icing, turbulence, windshear, and flight in the vicinity of mountainous terrain. Also conduct cost/benefit studies for potential new aviation weather products and studies for the application of weather sensors in the vicinity of airports to increase safety and efficiency.

Experience/Honors: Active pilot since 1959 (flight instruction, charter, corporate, weather modification, weather research, Navy Carrier pilot) and current aircraft owner.

Active duty USN (1966-71), plus 17 years USNR, retired Captain (1987).

South Dakota School of Mines and Technology (1971-1976). Research flights and data analysis.

University of Wyoming (1976-87). Assistant Professor of Atmospheric Science and Flight Facility Manager. Aircraft icing research, weather modification research, basic cloud physics, and dynamics research, winter storms research, etc.

National Center for Atmospheric Research (1987-1993). Deputy Director of the Research Application Program. Developing new weather technology for the FAA (LLWAS, TDWR, aircraft icing, and the Aviation Weather Development Program).

Outstanding Naval Aviator of the Year, 1967.

NAVAIR Research Chair in Meteorology, U.S. Naval Academy, 1982-83.

Patent holder for remote supercooled liquid water sensor.

Education: B.S., 1963, Montana State University, Math, Physical Science, Education

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M.S., 1974, South Dakota School of Mines and Technology, Meteorology

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Position/Scope: Cleveland, Ohio, public service forecaster (1961), aviation forecaster (1962-68)

Transferred to National Meteorological Center, MD, Forecast Division in 1968, and the Aviation Weather Branch in 1969. In 1975 transferred to the Office of Meteorology and Oceanography at National Service Headquarters as Executive Officer. Promoted to Chief, Aviation Services Branch, 1976.

Experience/Honors: Member American Meteorological Society, the AIAA, and the National Weather Association.

Serves as a United States representative on the World Meteorological Organization's Technical Commission for Aeronautical Meteorology. Elected Vice-President of that Commission in 1966.

Served on many United States delegations to the International Civil Aviation Organization as well as the World Meteorological Organization.

Licensed pilot.

Education: B.S. Meteorology, Pennsylvania State University, 1959

AETC Interest Areas: All areas to do with weather and its impact on aviation.

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Position/Scope:	Formulate, develop, and direct applied research programs to assess the effects of the atmosphere on the performance of Boeing products.
Experience/Honors:	Senior Research Engineer for corporate support activities in the atmospheric sciences Technical Leader in the formulation of recommendations from the airline industry, to Federal and International aviation rule-making authorities as regards certification requirements relating to airplane performance in severe weather. Principal Investigator, USAF contract for, "Improved Sampling Techniques for Radio Interferometer Range/Range Rate Error Corrections." Principal Investigator, DOT contract, "Air Quality Workbook for Airport Air Quality Analyses." Co-Investigator, USAF contract, "Feasibility Study for Propagation Analysis On Board the E-3." Principal Investigator, NASA Task Order, "Atmospheric Disturbance Environment Definition." Outstanding Scientific Achievement Award, U.S. Army. Patent Award, Active Infrared System for Measuring Trace Atmospheric Constituents.
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AETC Interest Areas:	Atmospheric effects on airplane, surveillance system, and communication system performance. Atmospheric Standards definition.

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Position/Scope:	Senior Staff Engineer with responsibilities for spacecraft flight loads, environmental conditions such as wind and gusts, day-of-launch support, associated computer codes, and many more.
Experience/Honors:	1952-1955, Fairchild Aircraft Division, Hagerstown, MD, stress technologist. 1955-1961, The Martin Company, Baltimore, MD. Studies load, temperature, time environment of supersonic flight. High temperature structural research, analysis and test. 1961-present, Lockheed Missiles & Space Company, Inc. Research in flight loads environment and load response characteristics of flight vehicles. Developed numerous computer codes for use in analysis. Developed day-of-launch support procedures and facilities. Associate Fellow of the AIAA
Education:	M.S. Aeronautical Engineering, Technical University, Delft, Netherlands, 1950
AETC Interest Areas:	Atmospheric environment and its effect on spacecraft launch operations.

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Position/Scope: As Research Professor of Atmospheric Science, primary activities are with respect to research. Interests are mainly in the areas of applied research on terrestrial and on-orbit atmospheric environments relative to aerospace vehicle systems. Emphasis is on wind dynamics and thermodynamic models and their interpretation for engineering design and mission analysis. Environment guideline and standard development relative to aerospace vehicle operational requirements and assessment of programmatic impacts are also a principal concern. Research on issues associated with space-based observation systems and related policy matters is also conducted.

Previous experience includes Air Force Staff Weather Officer, NASA Marshall Space Flight Center Division Chief and Director, Research Institute, University of Alabama with responsibilities for initiation, leadership, development, and management of a large variety of atmospheric projects and related scientific and engineering activities. Served as consultant to industry.

Experience/Honors: Career experiences have included assignments with the Air Force, Army, NASA, and University of Alabama. These have included a variety of activities with many government, industry, and international groups. Has served on many advisory committees, society committees plus organizer of conferences, workshops, and sessions.

Fellow, American Meteorological Society; Associate Fellow, American Institute of Aeronautics and Astronautics; Professional Member, American Geophysical Union, American Association for Advancement of Science, and Sigma Xi. Author of over 80 professional publications. Received NASA Exceptional Service Medal, AIAA Losey Atmospheric Sciences Award, AIAA Herman Oberth Award, IES Maurice Simpson Technical Editors Award, and numerous Air Force, Army, and NASA performance awards. Certified Consulting Meteorologist by American Meteorological Society.

Education: B.S. (with Honors), Mathematics and Physical Science, University of Florida, 1951.

Graduate Certificate, USAFIT, Atmospheric Science (Meteorology), Florida State University, 1952.

Ph.D., Engineering Science, University of Tennessee, 1976.

AETC Interest Areas: All aspects of the atmospheric environment with regard to development and interpretation of inputs for the design, development, test, and operation of aerospace vehicles and systems.

PROFILES TO BE SUPPLIED

New Members

Dr. Robert L. Ash
Dr. Brian B. Brady
Dr. Jerry A. Gelbwachs
Mr. Stephen M. Holt

Current Members

Mr. C. Scott Bartlett
Ms. Dorothy Becker
Dr. C. Warren Campbell
Dr. Herbert C. Carlson
Dr. Phan Dao
Mr. Williard Douglas
Ms. Michele Gates
Dr. R. John Hansman
Dr. Jerald C. Hinshaw
Dr. Richard K. Jeck
Mr. Dale Johnson
Dr. William T. Kreiss
Dr. Harvey Lilenfeld
Mr. Ronald Magee
Dr. Rebecca C. McCaleb
Mr. Taylor Murphy
Mr. Bahman S. Namdar
Dr. Conrad F. Newberry
Mr. Steven D. Pearson
Dr. Mark G. Potapczuk
Mr. Robert Skrivanek
Mr. Robert M. Suggs
Dr. Philip D. Whitefield

APPENDIX D

AETC MEMBER NOTES

Please send changes and suggestions to:

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